

CLAIMS

1. [AMENDED] A method for transmitting data from a first antenna, said method including the steps of:
- providing a carrier signal;
- 5 imposing a phase modulation of less than  $90^\circ$  on the carrier signal in accordance with a data signal to create a modulated signal having a carrier frequency and sidebands, the sidebands being substantially lower in amplitude than the carrier frequency; and
- providing the modulated signal to said first antenna for transmission.
2. A method according to claim 1 including the step of receiving the modulated
- 10 signal with a second antenna which, in response thereto, produces a first signal which is provided to receiver means, the receiver means deriving a second signal indicative of the data signal.
3. A method according to claim 2 wherein the first signal is used to power the receiver means.
- 15 4. A method according to claim 2 or claim 3 wherein both the first and second antennas have a high Q factor.
5. A method according to claim 1 including the step of deriving the modulated signal from the sum of the carrier signal and an attenuated quadrature carrier signal which is modulated with the data signal.
- 20 6. [AMENDED] A transmitter including:
- a first antenna;
- oscillator means for providing a carrier signal; and

mixing means for imposing a phase modulation of less than  $90^\circ$  on the carrier signal in accordance with a data signal to create a modulated signal, the mixing means also providing the modulated signal to the first antenna for transmission, wherein the modulated signal has a carrier frequency and sidebands, the sidebands being

5 substantially lower in amplitude than the carrier frequency.

7. A transmitter according to claim 6 wherein the modulated signal is received by a second antenna which, in response thereto, produces a first signal which is provided to receiver means, the receiver means deriving a second signal indicative of the data signal.

8. A transmitter according to claim 7 wherein the first signal is used to power the

10 receiver means.

9. A transmitter according to any one of claim 6 to 8 wherein both the first and second antennas have a high Q factor.

10. A transmitter according to claim 6 wherein the modulated signal includes the sum of the carrier signal and an attenuated quadrature carrier signal which is modulated with

15 the data signal.

11. A transmitter according to claim 6 wherein the antenna is a tunable coil.

12. A method for transmitting data from an antenna substantially as herein described with reference to the embodiment of the invention illustrated in the accompanying drawings.

20 13. A transmitter substantially as herein described with reference to the embodiment of the invention illustrated in the accompanying drawings.

14. An identification system including a transmitter as defined in any one of claims 6 to 11.

15. A system according to claim 14 for identifying luggage.
16. [NEW CLAIM] A method for transmitting data from a first antenna, said method including the steps of:
- providing a carrier signal;
- imposing a phase modulation on the carrier signal in accordance with a data signal to create a modulated signal having a carrier and sidebands, the amount of phase modulation being selected such that the amplitude of the sidebands is substantially lower than that of the carrier; and
- providing the modulated signal to the first antenna for transmission.
17. [NEW CLAIM] A method according to claim 16, wherein the phase modulation is selected such that the sidebands are greater than 10 dB below the carrier amplitude.
18. [NEW CLAIM] A method according to claim 17, wherein the phase modulation is selected such that the sidebands are greater than 40 dB below the carrier amplitude.
19. [NEW CLAIM] A method according to claim 18, wherein the phase modulation is selected such that the sidebands are greater than 60 dB below the carrier amplitude.
20. [NEW CLAIM] A method according to any one of claims 16 to 19 including the step of receiving the modulated signal with a second antenna which, in response thereto, produces a first signal which is provided to receiver means, the receiver means deriving a second signal indicative of the data signal.
21. [NEW CLAIM] A method according to claim 20 wherein the first signal is used to power the receiver means.
22. [NEW CLAIM] A method according to claim 20 or claim 21 wherein both the first and second antennas have a high Q factor.

23. [NEW CLAIM] A method according to any one of claims 16 to 19 including the step of deriving the modulated signal from the sum of the carrier signal and an attenuated quadrature carrier signal which is modulated with the data signal.

24. [NEW CLAIM] A transmitter including:

5 a first antenna;

oscillator means for providing a carrier signal; and

mixing means for imposing a phase modulation on the carrier signal in accordance with a data signal to create a modulated signal having a carrier and sidebands, the amount of phase modulation being selected such that the amplitude of the sidebands is substantially lower than that of the carrier, the mixing means also providing  
10 the modulated signal to the first antenna for transmission.

25. [NEW CLAIM] A transmitter according to claim 24, wherein the phase modulation is selected such that the sidebands are greater than 10 dB below the carrier amplitude.

15 26. [NEW CLAIM] A transmitter according to claim 25, wherein the phase modulation is selected such that the sidebands are greater than 40 dB below the carrier amplitude.

27. [NEW CLAIM] A transmitter according to claim 26, wherein the phase modulation is selected such that the sidebands are greater than 60 dB below the carrier  
20 amplitude.

28. [NEW CLAIM] A transmitter according to any one of claims 24 to 27 wherein the modulated signal is received by a second antenna which, in response thereto,

29. [NEW CLAIM] A transmitter according to claim 28 wherein the first signal is used to power the receiver means.

31. [NEW CLAIM] A transmitter according to claims 24 to 27 wherein the modulated signal includes the sum of the carrier signal and an attenuated quadrature carrier signal which is modulated with the data signal.

33. [NEW CLAIM] An identification system including a transmitter according to any one of claims 24 to 32.

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